



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/451,196	11/29/1999	RADESH MANIAN	081862.P149	8729

7590 01/13/2005

BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP  
12400 WILSHIRE BOULEVARD  
SEVENTH FLOOR  
LOS ANGELES, CA 90025

EXAMINER

ZIA, SYED

ART UNIT	PAPER NUMBER
----------	--------------

2131

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/451,196

**Applicant(s)**

MANIAN ET AL.

**Examiner**

Syed Zia

**Art Unit**

2131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This office action is in response to request for reconsideration, and supplemental response filed on August 05, 2004, and October 07, 2004 respectively. Original application contained Claims 1-31. Applicant currently amended Claims 1, 2, 5,6, 9, 10, 13,14, 17, 18, and 25-28. The amendments filed on October 07, 2004 have been entered. Therefore, presently pending claims are 1-31.

#### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on August 05, 2004 has been entered.

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1-31 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Objections***

Claim 17 objected to because of the following informalities: At line 10, “the hardware schedule,” should be typed “the hardware schedule table,”. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Bergantino et al. (U. S. Patent 6,359,891).

3. Regarding claim 1, Bergantino teach and describe a method to schedule connections of traffic in a network (Fig.1-2, col.16 line 33 to line 19) comprising:

creating N logical schedule tables [i.e. entries for each virtual connections] from a hardware schedule table (*also known in the art as Scoreboard. Refer page 5 line13 of Applicants' disclosure*) (col.17 line 18 to line 21) having entries corresponding to connections (connection Ids of item110) [i.e. assigning and linking multiple virtual connection request for

Art Unit: 2131

slots, implemented in network processor (Fig.1 A item 12)], the N logical schedule tables being separated by table delimiters and operating independently of one another, each of the table delimiters corresponding to at least one unused entry in the hardware schedule table (col.17 line 23 to line 35); and

assigning an identifier to an available entry in one of the N logical schedule tables, the identifier corresponding to one of the connections in the network (col.16 line 50 to line 60, col.17 line 7 to line 13, and col.23 line 23 to line 32).

4. Regarding claim 9, Bergantino teach and describe a computer program product (Fig.2, col.13 line 2 to line 4) comprising

- a computer usable medium (col.12 line 4 to line5) having computer program code embodied therein to schedule connections of traffic in a network, the computer program product having (Fig.1-2, col.16 line 33 to line 19): computer readable program code for creating N logical schedule tables [i.e. entries for each virtual connections] from a hardware schedule table (*also known in the art as Scoreboard. Refer page 5 line13 of Applicants' disclosure*) (col.17 line 18 to line 21) having entries corresponding to the connections (connection Ids of item110) [i.e. assigning and linking multiple virtual connection request for slots, implemented in network processor], the N logical schedule tables being separated by table delimiter and operating independently of one another, each of the table delimiters corresponding to at least one unused entry in the hardware schedule table (col.17 line 23 to line 35); and

computer readable program code (col.20 line 16 to line 19, and col.29 line 47 to line 48) for assigning an identifier to an available entry in one of the N logical schedule tables, the

Art Unit: 2131

identifier corresponding to a connection in the network (col.16 line 50 to line 60, col.17 line 7 to line 13, and col.23 line 23 to line 32).

5. Regarding claim 17, Bergantino teach and describe a system (Fig.1-2, col.16 line 33 to line 19):

a network interface bus (Fig.1A, item 16);

a physical interface device coupled [i.e. UTOPIA port] to the network interface bus to request a connection by an identifier (col.8 line 20 to line 34); and

a network processor (ATM Cell processor item 12) coupled to the network interface bus having at least a hardware schedule table to schedule connections of traffic in a network and N logical schedule tables [i.e. entries for each virtual connections] created from the hardware schedule table (*also known in the art as Scoreboard. Refer page 5 line13 of Applicants' disclosure*) (col.17 line 18 to line 21), the at least hardware schedule table having entries corresponding to the connections (connection Ids of item110) [i.e. assigning and linking multiple virtual connection request for slots, implemented in network processor], the N logical schedule table being separated by table deciliter and operating independently of one another, each of the table delimiters corresponding to at least one unused entry in the hardware schedule (col.17 line 23 to line 35), the identifier being assigned to an available entry in one of the N logical schedule tables (col.16 line 50 to line 60, col.17 line 7 to line 13, and col.23 line 23 to line 32).

6. Regarding claim 25, Bergantino teach and describe a system (Fig.1-2, col.16 line 33 to line 19) comprising:

a processor (host CPU, item 14);

a network processor (ATM Cell processor item 12) coupled to the processor (host CPU, item 14), the network processor having a scheduler for scheduling connections of traffic in a network using a hardware schedule table (Fig.1-2, col.16 line 33 to line 19); and

a memory (system memory item 18) coupled to the processor to store a program, the program when executed by the processor (Fig.2, col.13 line 2 to line 4) causing the processor to:

create N logical schedule table [i.e. entries for each virtual connections] from the hardware schedule table (*also known in the art as Scoreboard. Refer page 5 line13 of Applicants' disclosure*) (col.17 line 18 to line 21), the N logical schedule table being separated by table delimiters and operating independently of one another, each of the table delimiters corresponding to at least one unused entry in the hardware schedule table (col.17 line 23 to line 35, and

assign identifier to an available entry in one of the N logical schedule tables, the identifier corresponding to one of the connections in the network (col.16 line 50 to line 60, col.17 line 7 to line 13, and col.23 line 23 to line 32).

7. Claims 2, 4, 10, 12, 18, 20 and 26 are rejected applied as above in rejecting claims 1, 9, 17 and 25. Furthermore, Bergantino teach and describe scheduling network traffic using multiple logical schedule tables, wherein:

- total size if the N logical schedule tables is equal to size of the hardware schedule table (col.17 line 33 to line 40);

- determining if a first entry requested by the network for the identifier is occupied; and assigning the identifier to a second entry if the first entry is occupied, the second entry being available for occupancy (col.19 line 45 to line 65).

8. Claims 3, 5, 6, 11, 13, 14, 19, 21, 22 and 27 are rejected applied as above in rejecting claims 2, 4, 10, 12, 18, 20 and 26. Furthermore, Bergantino teach and describe scheduling network traffic using multiple logical schedule tables, wherein:

- each of the N logical schedule tables corresponds to a class of service [i.e. shaping requirement through network interface item 16] (col.20 line 65 to col.21 line 5);

- assigning the identifier to the first entry if the first entry is available for occupancy (col.19 line 45 to line 65);

- assigning the identifier to a third entry if the second entry coincides with one of the table delimiters, the third entry being a next available entry found from a beginning of the N logical scheduling table (col.26 line 60 to col.27 line 10);

- the scheduler assigns the identifier to a second entry if a first entry requested by the network for the identifier is occupied, the second entry being available for occupancy (col.19 line 45 to line 65).

9. Claims 7, 15, 23, and 28 are rejected applied as above in rejecting 5, 14, 22 and 27. Furthermore, Bergantino teach and describe scheduling network traffic using multiple logical schedule tables, wherein, comprising:

- the network is an asynchronous transfer mode (ATM) network (Fig. 1A, system 10).



- assigning the identifier to a third entry if the second entry coincides with one of the table delimiters, the third entry being a next available entry found from a beginning of the scheduling table (col.26 line 60 to col.27 line 10);

10. Claims 8, 16, 24 and 29 are rejected applied as above in rejecting 6, 15, 23 and 28.

Furthermore, Bergantino teach and describe scheduling network traffic using multiple logical schedule tables, wherein:

- the identifier is a virtual channel identifier (Fig.4, identifier (ID) Table 110);
- the network is an asynchronous mode transfer (ATM) network (Fig. 1A, system 10).

11. Claim 30 are rejected applied as above in rejecting 29. Furthermore, Bergantino teach and describe:

- the identifier is a virtual channel identifier (Fig.4, identifier (ID) Table 110).

12. Claim 31 is rejected applied as above in rejecting claim 30. Furthermore, Bergantino teach and describe an ATM processing device, comprising:

- the network processor is a segmentation and reassembly processor (col.23 line 63 to col.24 line 3).

Art Unit: 2131

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Please refer attached PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed Zia whose telephone number is 571-272-3798. The examiner can normally be reached on 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SZ

December 29, 2004